

1 WHAT IS CLAIMED IS:

2 1. A stereoscopic image processing apparatus for
3 calculating a parallax between a pair of images, comprising:

4 correlation evaluating means for evaluating a
5 correlation of brightness between a first pixel block provided
6 in one of said pair of images and a second pixel block provided
7 in the other of said pair of images; and

8 region size changing over means for changing over a
9 size of said first and second pixel blocks in evaluating said
10 correlation.

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12 2. The stereoscopic image processing apparatus according
13 to claim 1, wherein said size of said first and second pixel blocks
14 is changed over in accordance with an area where said first pixel
15 block is located.

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17 3. The stereoscopic image processing apparatus according
18 to claim 2, wherein said area is divided into two areas, an upper
19 area and a lower area, by a horizontal boundary line.

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21 4. The stereoscopic image processing apparatus according
22 to claim 3, wherein said size of said first and second pixel blocks
23 is changed over to said first size when said first pixel block
24 is located in said lower area.

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1 5. The stereoscopic image processing apparatus according
2 to claim 2, wherein said area is divided into a plurality of areas
3 and said size of said first and second pixel blocks is changed
4 over to respective specified size of said first pixel block in
5 accordance with said respective areas where said first pixel block
6 is located.

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8 6. The stereoscopic image processing apparatus according
9 to claim 1, wherein said first and second pixel blocks have a
10 first size and a second size which is larger than said first size.

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12 7. The stereoscopic image processing apparatus according
13 to claim 1, wherein said size of said first and second pixel blocks
14 is changed over in accordance with imaging conditions including
15 at least rain, fog, snow, backlight, nighttime, snow on road,
16 stain or droplet on front windshield.

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18 8. A stereoscopic image processing apparatus for
19 calculating a parallax between a pair of images, comprising:
20 correlation evaluating means for evaluating a
21 correlation of brightness between a first pixel block provided
22 in one of said pair of images and a second pixel block provided
23 in the other of said pair of images;
24 weighting factor means for applying weighting a factor
25 to each of pixel constituting said first and second pixel blocks

1 in evaluating said correlation; and
2 weighting factor changing over means for changing over
3 said weighting factor in evaluating said correlation.

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5 9. The stereoscopic image processing apparatus according
6 to claim 8, wherein said weight factor is established to 0 at
7 a surrounding region around a central region of said first and
8 second pixel blocks.

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10 10. A stereoscopic image processing method of
11 calculating a parallax between a pair of images, comprising the
12 steps of:

13 evaluating a correlation of brightness between a first
14 pixel block provided in one of said pair of images and a second
15 pixel block provided in the other of said pair of images; and
16 changing over a size of said first and second pixel
17 blocks.

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19 11. The method according to claim 10, wherein the step of
20 changing over said first and second pixel blocks includes changing
21 over in accordance with an area where said first pixel block is
22 located.

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24 12. The method according to claim 11, further comprising
25 the step of dividing said area into two areas, an upper

1 area and a lower area, by a horizontal boundary line.

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3 13, The method according to claim 11, further comprising
4 the step of dividing said area into a plurality of areas by a
5 plurality of boundary lines.

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7 14. A stereoscopic image processing method of calculating
8 a parallax between a pair of images, comprising the steps of:
9 evaluating a correlation of brightness between a first
10 pixel block provided in one of said pair of images and a second
11 pixel block provided in the other of said pair of images;
12 applying weighting a factor to each of pixel
13 constituting said first and second pixel blocks in evaluating
14 said correlation; and
15 changing over said weighting factor in evaluating said
16 correlation.

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